

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. **(currently amended):** A vesicle ~~Vesicle~~ for binding a substance, comprising having an artificial membrane ~~containing~~ having amphiphilic molecules~~[[,]]~~ and a pore-forming unit ~~contained in the membrane, in order to allow~~ that permits access to the vesicle interior, and characterised in that the vesicle contains, in the vesicle interior, a binding substance for binding ~~the~~ a substance to be bound, ~~and~~ wherein the binding substance is disposed in the vesicle interior and is substantially unable to diffuse through the pore formed by the pore-forming unit.
2. **(Currently amended):** A vesicle ~~Vesicle~~ according to claim 1, ~~characterised in that~~ wherein the binding substance is ~~equipped to provide~~ able to form an ionic bond, a hydrogen bridge bond and/or a hydrophobic interaction with said substance to be bound.
3. **(Currently amended):** A vesicle ~~Vesicle~~ according to ~~any one of the preceding~~ claim~~[[s]]~~ 1 or 2, ~~characterised in that~~ wherein the pore unit ~~contains~~ comprises a protein or fragment thereof, ~~[[a]]~~ said protein being ~~part~~ selected from the group consisting of:
 - a) a transmembrane protein,

- b) a transmembrane protein comprising ~~having~~ an alpha-helical transmembrane structure,
- c) a transmembrane protein comprising ~~having~~ a β -barrel transmembrane structure,
- d) a ~~transmembrane structure~~ protein structural element of a transmembrane protein, and
- e) a protein having a structure that is ~~structurally~~ homologous to a ~~transmembrane structure~~ protein structural element of any one of the proteins according to a), b), c) and/or d).

4. (Currently amended): A vesicle ~~Vesicle~~ according to ~~any one of the preceding~~ ~~claims[[,]]~~ claim 1 or 2, wherein ~~characterised in that~~ the pore unit has an ~~inside~~ pore diameter ~~having a width of more~~ that is greater than 1 nm.

5. (Currently amended): A vesicle ~~Vesicle~~ according to ~~any one of the preceding~~ ~~claims[[,]]~~ claim 1 or 2, wherein ~~characterised in that~~ the pore unit forms an enantioselective pore.

6. (Currently amended): A vesicle ~~Vesicle~~ according to ~~any one of the preceding~~ ~~claims[[,]]~~ claim 1 or 2, wherein ~~characterised in that~~ the vesicle has said binding substance comprises a positively charged oligomer or polymer ~~in the vesicle interior~~.

7. **(Currently amended):** A vesicle ~~Vesicle~~ according to claim 6, characterised in that wherein said binding substance comprises poly-lysine ~~the vesicle contains polylysin in the vesicle interior.~~
8. **(Currently amended):** A method of binding a substance ~~Use of a~~ wherein a substance is contacted with the vesicle of claim 1 or 2. ~~according to any one of the preceding claims for binding a substance.~~
9. **(Currently amended):** The method of binding a substance according to claim 8, ~~wherein Use according to claim 8, wherein~~ the substance to be bound is a nucleic acid.
10. **(Currently amended):** A method ~~Method~~ of binding a nucleic acid, comprising contacting a ~~which comprises bringing the nucleic acid to be bound into contact with [[a]] the vesicle according to any one of claim[[s]]1 or 2 [[to 7]].~~
11. **(Currently amended):** A method ~~Method~~ of releasing a nucleic acid, which comprises comprising the steps of:
- a) binding a nucleic acid in a vesicle ~~by a method according to~~ by contacting the nucleic acid with the vesicle of claim 1 or 2, and

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b) then releasing the bound nucleic acid from the vesicle by applying a shear stress to the vesicle and/or dissolving the vesicle and/or by adding a salt.